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REPORT AND RECOMMENDATIONS

OF THE

JOINT COMMITTEE ON HARBORS

APPOINTED BY THE

LEGISLATURE OF THE STATE OF CALIFORNIA

MARCH 14, 1907

With an Appendix. Containing Reports from the Harbors
of the State



SACRAMENTO:

W. W. SHANNON, : : : : SUPERINTENDENT STATE PRINTING.
1908.

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COMMITTEE:

SENATOR LEROY A. WRIGHT

SENATOR E. I. WOLFE

SENATOR T. J. KENNEDY

ASSEMBLYMAN WALTER LEEDS

ASSEMBLYMAN PERCY JOHNSON

ASSEMBLYMAN LOUIS STROHL

REPORT.

To the Legislature of the State of California:

On March 14, 1907, the Legislature adopted the following Senate Concurrent Resolution No. 3:

WHEREAS, The constant increasing commerce of the ports of California demands greater facilities for the handling of shipping; and

WHEREAS, The interests of the entire State are affected by the harbors of the State, be it

Resolved, That a special committee of six members be appointed from the Legislature of the State of California, consisting of three members from the Senate, to be appointed by the President thereof, and three members from the Assembly, to be appointed by the Speaker thereof, to investigate the conditions of the harbors of the State and to make recommendations for legislation necessary to be enacted at the next session of the Legislature;

Resolved, That it is the sense of the Legislature that the report should be comprehensive in all respects, and that it should include not only existing conditions and facilities, but also recommendations for financing future permanent improvements;

Resolved, That the said joint committee shall have the power to subpoena witnesses and to send for persons and papers, and to issue subpoenas when necessary;

Resolved, That the necessary traveling and incidental expenses of said joint committee shall be paid out of the contingent expenses of the respective houses.

At the sixth semiannual meeting of the Counties Committee of the California Promotion Committee, held at Coronado, San Diego County, on December 15, 1906, a resolution was adopted asking for the appointment of a legislative committee to inquire into the conditions and needs of the harbors of the State of California, and to report a comprehensive plan to the Legislature for the improvement of said harbors in order to facilitate commerce. In compliance with this action the above concurrent resolution was adopted by the Legislature of 1907, and Senators Leroy A. Wright, E. I. Wolfe, and T. J. Kennedy, and Assemblymen Walter Leeds, Percy Johnson, and Louis Strohl were appointed on such joint committee by the presiding officers of the respective houses.

All the members of the committee attended sessions held at San Francisco, Los Angeles, San Diego, Oakland, Eureka, Port San Luis, and Newport Beach, making personal examination of the present physical conditions and consulting with the officials of the various ports as to the work that can be properly done by the State in the way of permanent improvements. Joint meetings have been held with the Harbor Commissioners of San Francisco, Los Angeles, San Diego, and

Eureka, at which present conditions were exhaustively entered into. There have also been consultations with Engineers Luther Wagoner and Col. W. H. Heuer, U. S. A., representing the Federated Harbor Improvement Association of San Francisco, and also with officials and members of commercial bodies at Oakland, San Diego, San Pedro, Port San Luis, Newport Beach, and Los Angeles. In its work of informing itself the committee has been aided by officials and residents at all the ports visited, and facts and theories have been cheerfully furnished, even at points where State assistance at the present time is not practicable.

SAN FRANCISCO.

In San Francisco, one of the important world ports, the committee found such a congestion of shipping and freight that the facilities provided through the indebtedness already incurred for the accommodation of vessels and the handling of freight, even though the moneys have been judiciously and economically expended, are entirely inadequate to provide for the rapidly increasing business with the countries across the Pacific, as well as that of the coast trade along the line of the two Americas. As the leading port on the west coast of North America, San Francisco has continued the work of the earlier years in improvements of the harbor, and only of comparatively recent date has there been the idea of permanency in the construction of piers and docks. Where world ports of less importance than San Francisco have had millions of dollars expended in permanent improvements, especially those in European countries that have been made to meet the demands of future generations, the San Francisco Harbor Commissioners have been compelled to be most frugal in their expenditures for much needed improvements, having at their command only hundreds of thousands of dollars where there should have been millions. Much has been done from the earnings, and in addition payments have been made annually on principal and interest, to lessen the amount secured by loans and the issue of bonds.

Having faith in themselves, their State, and their harbors, Californians have not realized to the fullest extent the importance of permanent improvement of their ports, and, as a consequence, much of the money expended has been for work of a temporary character, the short life of which will imperatively demand future appropriations to replace what has been done. In the matter of piers, docks, seawalls, and bulkheads there is no longer excuse for experimentation. The needs of the future, even the distant future, are known and should be anticipated.

All the piers and docks excepting two, the Pacific Mail docks, are owned and operated by the State. There are thirty-one of these project-

ing piers, and in addition there are 6,629 lineal feet of bulkhead wharfage, making an aggregate length of 25,229 lineal feet of wharfage. The average cost of maintenance during the past five years has been approximately \$170,000 a year, not including dredging. Your committee understands the annual cost to include all fixed charges and the reduction of indebtedness. At the present time the actual indebtedness amounts to \$1,525,672.95, of which sum \$125,672.95 is what is known as "deferred payment," which will be cleared in 1911. Payment of \$50,000, with 4 per cent interest, will clear the \$250,000 borrowed from the school fund after the San Francisco disaster. The sum of \$600,000, known as the depot bond issue, will expire in 1911 and disappear from the indebtedness. Of the seawall fund of \$2,000,000, authorized bonds, the sum of \$250,000 was issued in 1906, and in 1908 the further amount of \$500,000 was issued. The remaining \$1,250,000 will be issued as needed in the work of extending the seawall which is now under construction. The income of the port provides for all the fixed charges, being the current expenses and the redemption fund and interest.

Your committee will not enter into the cost of piers and docks, owing to the diversified form of construction, the variation in cost being from 50 cents to \$2.90 a square foot. By referring to the answer to question 10 in the report of the San Francisco Harbor Commissioners this matter of cost can be studied in detail. It will be found, in comparing the cost and the length of life of piers, that the cheaper kind is the more expensive. One kind has an average life of only a few years, while the concrete structures have indefinite durability extending into generations. The concrete docks and piers are in good condition, needing but little in the way of repair, while the wooden ones are in range, as to condition, from good to the verge of collapse, according to the few years they have been in use.

The present dockage is inadequate. The seawall should be immediately extended from the union depot to pier 42, a distance of 5,160 feet, which work is being built under the \$2,000,000 bond issue already authorized. One thousand feet of this wall extending northerly from pier 42 is nearing completion. There should follow the reconstruction of at least twelve of the old piers, and an addition of four new ones. That these should be constructed of cement follows from the mere fact that existing piers are now ready to be replaced by new ones. This work will eventually cost \$5,000,000. In addition to the accommodation of shipping, with its attendant income, there will follow the reclaiming of seawall lots and property valued at more than \$2,000,000. It will be noticed that of the \$2,000,000 in bonds authorized for the extension of the seawall there remains at the present time the sum of \$1,250,000 that is yet to be sold as required.

The pierhead line should be redrawn to include the whole of China Basin, followed by twelve or more piers to serve the Potrero and Mission sections. The old piers north of the ferry house must be modernized at a cost of over \$2,000,000. A seawall should be extended westerly from Taylor and East streets to the government reservation at Black Point, thus acquiring valuable seawall lots and pier sites, demanded by the commercial extension along North Beach. The whole of this work done in a permanent manner will cost approximately \$20,000,000.

The dockage charges at San Francisco are moderate, and compare favorably with those of any other port in the world (see answers to questions 20 and 21 in report of San Francisco Harbor Commissioners).

It has been said that San Francisco is one of the important ports of the world. This may be seen from the imports and exports for the fiscal year ending June 30, 1907. There were shipped to foreign ports 1,613,822 tons of freight; to domestic ports, 2,744,776 tons, making a total of 4,358,648 tons during the year. The average imports for five years amounted to 3,506,395 tons a year. During the year ending December 31, 1907, 6,900 steam and 748 sail vessels docked at the port of San Francisco, having a total of 4,615,603 tonnage. Of these vessels 3,963 steam and 729 sail were deep seagoing.

One feature in the dockage system of San Francisco deserves especial notice—the ownership by the State of the belt railroad connecting the numerous warehouses and factories around the bay front with the transbay railroads. During the year 1907 over 50,000 cars were handled by the belt line, a uniform rate of \$2 having been charged for this service. As shippers know, the average railroad charge for switching at terminal points is in the neighborhood of \$5 a car. The extension of the seawall will naturally demand the enlargement of the belt line facilities, as new piers and warehouses will necessitate the extension of the rails of communication.

The Harbor Commissioners of San Francisco call attention to a state of affairs requiring legislative action. Existing laws hold the Harbor Commissioners responsible for any abuse of State property, but do not give that board sufficient control over the same for the abatement of nuisances. The Harbor Commissioners also call attention to the necessity for the enactment of laws compelling the Pilot Commission to make its report to the Governor of the State, or to the State Legislature, and also to the wisdom of a material reduction of pilot charges. It has been suggested that pilots be placed on monthly salaries instead of fees, and that a nominal charge be made against incoming and outgoing vessels. The present pilot charges are as follows:

“All vessels under 500 tons, \$3 per foot draught; all vessels over 500 tons, \$3 per foot draught and 3 cents per ton for each and every ton

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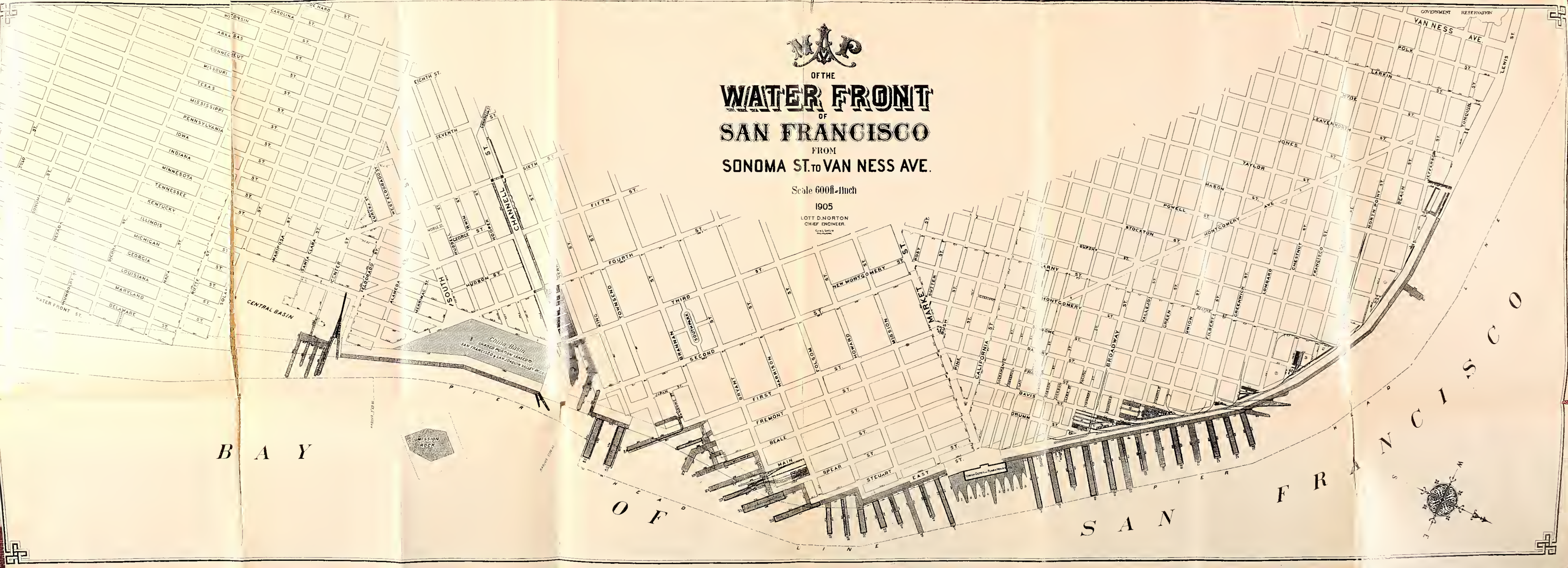
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Scale 600ft-1inch

1905

LOTT D. NORTON
CHIEF ENGINEER.

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registered measurement. In all cases where inward bound vessels are not spoken until inside the bar the rates of pilotage herein provided shall be reduced 50 per cent. Vessels engaged in the whaling or fishing trade shall be exempt from all pilotage, except where a pilot is actually engaged."

The Legislature of 1903 made a reduction in pilotage charges. The payment of monthly salaries to pilots would be the means of still further reduction, and any decrease in the charges upon shipping will naturally tend to increase the commerce of the port.

Attention is called to the high rate that vessels docking in San Francisco have to pay for the water they use. Attention is also called to the absence of warehouse facilities along the water front, and to the total lack of facilities for the handling of bulk freight. This overcharge and these lacking facilities naturally increase merchandise cost, to the detriment of California, for as the importance of the port of San Francisco is increased throughout the world the State of California is benefited. Increased commerce and the prosperity of California at large, even while a single port may receive the direct benefits, are inseparable. The fixed charges under the control of the State Harbor Commissioners at the port of San Francisco are reasonable and bear favorable comparison with those of any of the ports of the world. The wisdom of permitting them to remain as they are until the improvements contemplated are all made should at once be apparent.

SAN DIEGO.

San Diego Bay is also destined to become one of the great shipping points of California, and is already one of the leading ports of call for the steamer lines plying between the Tehuantepec Railroad in the south and point further north. Having an anchorage area of $9\frac{1}{2}$ square miles in the bay, with a depth of from 30 to 50 feet, and a depth of 28 feet over the bar at low tide, San Diego Bay, which is always a safe port under all weather conditions only awaits the completion of the Eastern railway lines, a second one of which is now under construction, to become the ocean port of a vast country reaching to the Mississippi River and to the Gulf of Mexico. While the State owns and controls the tide lands, conservatively appraised at \$1,691,884, the nine large and ten small docks and piers are owned by private parties, excepting a small wharf at Fort Rosecrans, which is owned by the Federal Government. San Diego now has coal bunkers of sufficient capacity to supply all freight and passenger steamers, and when the Federal coaling station with 40,000 tons capacity, under construction, shall have been completed, this port will have received the recognition due it as the rendezvous for all war vessels on the Pacific when on southern duty.

The construction of a seawall will bring into immediate use much and valuable reclaimed tide lands, which will be utilized for commercial purposes, for warehouses and spurs of railroads, and will be the direct means of considerable revenue to the State. Add to these reclaimed lands the contemplated State wharves, which will have 30 feet of water, and San Diego will have ample facilities for the handling of an immense commerce. The present State revenue from the nine large private wharves is in the form of rentals for franchise privileges. This revenue is not large from the fact that eight of the nine wharves are devoted principally to the business of the corporations and companies owning them. All the piers are constructed of wood, and only two can be said to be in good condition, these two having the piles protected by cement covering. The piling at the Federal coaling station is of a more permanent character, being, like all other Government work, constructed for the future as well as for the present, even though the first cost is so much the greater.

So far as berth room is concerned, the present dock facilities are sufficient for immediate business demands, but there is need for structures of more permanent character, and especially is there need for a State pier that might be used by all not having wharf facilities of their own. Upon completion of the San Diego and Arizona Railroad, now being built, the shipping demands will be largely increased. The construction of a State wharf, it is believed, would greatly increase the value of this port as a shipping point. A new wharf for the State would cost approximately \$100,000, but this amount would be much smaller if the State builds a seawall and utilizes its own tide lands. The Federal Government is at the present time constructing a naval coaling station at a cost of about \$250,000, and a bill is before Congress providing for a dry dock. In addition to this expenditure by the Federal Government it is more than possible that a naval training station will be established at some point on the bay. While these improvements may not directly cause increased commerce, they will naturally have a bearing upon the future business of the port.

There is room at the docks for twenty-four vessels, and the dockage charges are one cent per ton for 200 tons or less, three fourths cent per ton for balance, net register tonnage. Freight is unloaded from ship and loaded into cars at a cost of 50 cents per ton for merchandise, 75 cents per thousand feet for lumber, and 60 cents per thousand feet for ties. Warehouse charges are subject to contract, making evident the desirability of and the necessity for a State wharf and State warehouses. No demurrage charges are made.

During the year 1907 there were 73,057 tons of freight, not including coal and cement, received by vessel, and 64,688,700 feet of lumber



AREA OF BAY = 22 SQ. MILES

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received by vessel and raft. During the same period over 40,000 tons of coal and nearly 15,000,000 pounds of cement were received at the docks. The receipts during ten months of the year 1908 prove that these amounts will be greatly exceeded during the year 1909. while in the matter of lumber the amount will be nearly if not quite doubled. The records for 1907 show that 10,976 tons of freight were shipped out, consigned to both foreign and domestic ports.

There were 423 steamers and 80 sailing vessels that entered this port during the year 1907, not counting those engaged in the fishing trade. War vessels of this and other nations are not included among those figured above.

The principal articles of import were coal, coke, pig iron, cement, domestic animals, copper matte, hides, guano, bran, onyx, firebrick, lumber, flour, feed, structural iron, iron pipe, machinery, groceries, dry goods and leather goods. The leading exports were honey, tallow, hides, pelts, fish, wool, oranges, lemons, and grain.

The commerce of the port of San Diego is rapidly growing, owing to the development of southern California and the increase of imports from Europe and New York via Tehuantepec Railroad over the isthmus, and from Baja California. There is at the present time but one trans-continental railway entering this port, but the preliminary work has been done for a second that should be in operation within two years. Even before the completion of the Panama Canal a considerable business has been established in connection with the Tehuantepec Railroad, this being the port of call for all steamers receiving freight from that Mexican line and operating in conjunction with the several Atlantic lines. The commerce by this line is constantly growing, the last steamer to dock at the Oriental wharf having discharged at the port of San Diego 1,900 tons of freight for distribution throughout the southwest territory.

At present south bound steamers do not call at this port. Late this year an experimental shipment of oranges and lemons was made from the port of San Francisco for the purpose of determining if San Diego could be made an important fruit shipping point for east bound fruits. Oranges and lemons produced in southern California were bought in the open market at San Francisco and shipped East by the Tehuantepec line. The oranges landed in New York in first class condition, but the lemons were badly damaged. The officials of the Tehuantepec line, however, are of the opinion that the damaged condition of the lemons was wholly due to the fact that they were bought in the open market, having been intended for home consumption, and were not properly picked and packed for Eastern shipment. The last south bound steamer took eighty tons of freight which originated in the San Diego territory

and billed to New York. As soon as the territory offers a minimum of two hundred tons for each steamer San Diego will be made a port of call for south bound steamers. Inasmuch as the territory tributary to San Diego produced oranges and lemons last year of the total value of \$23,000,000, on which the railroads were paid for freight approximately \$14,000,000, it will readily be seen that if oranges and lemons can be shipped with safety by the Tehuantepec steamship line a very large commerce will grow up in the shipment of these and other fruits through the port of San Diego to the East. As there is a saving of at least one third in freight rates on both east and west bound shipments by steamship line over the railroads, the importance of the establishment of this line of steamers will be at once apparent. It will be seen that there will be such an increase of shipping that greater facilities than at present obtain here will be necessary.

In spite of the efforts of private individuals to secure water front rights that they would make perpetual, if possible, the Harbor Commissioners have rigidly preserved the integrity of State ownership. The last legislature having appropriated \$10,000 for that purpose, they have taken steps that will enable them to enforce all the claims of the State to the tide lands, having instituted suits and made provision to perpetuate the testimony of witnesses in a competent court. As these tide lands of the State extend nearly the length of the bay, and front all the deep water, there is need for definite action, especially as the future demands and valuations will be such a large increase over the present.

There is a total of 1,265.46 acres of these tide lands, having an assessed valuation of \$1,691,884. The following table, taken from the report of the Harbor Commissioners, will show that the assessments are not excessive, being based on present conditions rather than on future possibilities:

	Acres.	Assessed Value per Acre.	Total Value.
Tract No. 1	435.24	8600 00	\$261,144 00
Tract No. 2	16.50	3,000 00	49,500 00
Tract No. 3	53.60	10,000 00	536,000 00
Tract No. 4	102.20	2,000 00	204,040 00
Tract No. 5	57.20	3,000 00	171,600 00
Tract No. 6	104.00	500 00	52,000 00
Tract No. 7	171.00	200 00	34,200 00
Tract No. 8	218.00	300 00	65,400 00
Tract No. 9	72.00	800 00	57,600 00
Totals	1,229.56	\$1,431,484 00
Filled by private individuals, but claimed for State—			
Tract No. 10	21.30	\$4,000 00	85,200 00
Tract No. 11	14.60	12,000 00	175,200 00
Grand totals	1,265.46	\$1,691,884 00



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Government Work.—The Federal Government has expended up to the present time \$665,214 in the improvement of San Diego Bay, which has been in the way of dredging, deepening the channel across the bar, and the construction of jetties. Capt. Amos A. Fries, of the Corps of Engineers, under date of May 7, 1907, made a report to the Navy Department in which he made recommendation that the further sum of \$125,000 be appropriated for dredging a deep channel 600 feet wide and 30 feet deep from the bar at the entrance of the harbor (over which there is at the present time a channel 28 feet deep at low tide), and 400 feet wide and 30 feet deep through the middle ground in the harbor, so that the sharp turns of the present channel may be avoided. This recommendation, taking its regular course to the Navy Department, has been approved by Lieut. Col. John Biddle, Corps of Engineers, Division Engineer; Col. D. C. Lockwood, Corps of Engineers, senior member of the Board; Wm. S. Cowles, Chief of Bureau of Equipment; C. McR. Winslow, Acting Chief of Bureau of Navigation; Admiral George Dewey, President General Board; J. E. Pillsbury, Chief of Bureau of Navigation; V. H. Metcalf, Secretary Navy Department. There is now nothing in the way to prevent the appropriation asked for, especially as it is for the benefit of the war vessels that will come here to coal, as well as for all vessels carrying foreign commerce which draw up to 27½ feet of water.

HUMBOLDT BAY.

A careful personal inspection of Humboldt Bay reveals the possibilities of that port if there is proper assistance by the Federal Government and the State. The former is already doing efficient work in the way of dredging, but much more needs to be done. There are a number of deep basins having from 27 to 49 feet of water, and even more in places, that are separated by shallow "hogbacks" on which from 9 to 18 feet of water is found. The expense of dredging these will not be great, but private parties, after having deepened the water at their wharves, can not undertake the work. This port (Eureka) has now a business worth \$15,000,000 annually, and while in time its character may be changed, the amount will continue to increase. The commerce of Humboldt Bay is principally with coast points, lumber constituting the greater portion of it, but there is a growing trade with the Hawaiian Islands, the Central American States, South America, England, and Australia. The products other than lumber are constantly increasing in volume and value as well. The amount needed to properly prepare this bay to care for the largest vessels afloat need not necessarily be large, but there must be an expenditure in order to secure the greatest facilities for shipping.

The port of Eureka is the most important one on the Pacific Coast between San Francisco and Seattle. Humboldt Bay has an area of about $23\frac{1}{2}$ square miles, and is the most important center of the lumber industry in the State of California. It is also the most important shipping point for dairy products on the Pacific Coast, these for the past year having exceeded \$1,500,000 in value.

For the purpose of making the entrance to the bay safe to all vessels the Federal Government has constructed twin jetties into the ocean at an expenditure of over \$2,000,000. By reason of the sandy ground upon which they rest, and the effect of heavy storms, these jetties have been considerably damaged and the entrance to the bay has also shoaled. Shortly after the completion of the jetties there was a uniform depth of 30 feet at the entrance, and all vessels entered with perfect safety. The channel at the entrance has shifted considerably, so that deep draft vessels must now enter from the northward instead of going straight in from the sea. As the ocean is often rough, a few laden vessels have been injured by striking the bar in passing out and in. It is, therefore, important that the Federal Government should make additional appropriations for the purpose of repairing and extending the present jetties. Congressman F. W. Englebright has persistently urged upon Congress the necessity of this work, and has reason to believe that the necessary steps will be taken to complete it within the near future.

At the present time the only commercial connection between Eureka and the outside world is by vessel through Humboldt Bay. There remains a gap of about 100 miles on the Northwestern Pacific Railroad to be completed along the Eel River to connect Eureka by railroad with San Francisco and the outside world. At the present time Eureka has a population of about 15,000 people. It has one of the most equable climates on the Pacific Coast, and its business men are as enterprising as any to be found in the State of California. It is now, and will continue to be, one of the most important ports on the California coast, and its interests should be zealously guarded.

Practically all the tide lands in front of the city of Eureka were sold by the city at less than one dollar per front foot to private individuals under act of the legislature of 1857. It is doubted whether under the act of congress admitting California into the Union the State could legally authorize the issuance of such deeds. If void when issued the title to these tide lands is still in the State.



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With an outer harbor of 700 acres inside the breakwater, 300 acres having an average depth of 40 feet, 400 acres having an average of 30 feet, and 3,000 front feet owned by the city in the inner harbor having an average depth of 24 feet, there are at the present time no facilities for deep ocean going vessels at San Pedro. The Federal Government is doing effective work in dredging the channel in the inner harbor, and all difficulties in securing deep water may soon be overcome. In addition to the 3,000 feet of frontage owned by the city, most of which has been leased to private parties, San Pedro owns over 20,000 feet, which includes the outer harbor frontage, on which no franchise has been granted. On the west side of the harbor the city owns 214 acres of submerged lands with a frontage of about 8,000 feet on the outer harbor, which can in time be utilized after having been filled in. While the city has leased much of its water front, it has reserved in one place a strip 1,480 feet long and 200 feet deep for dock and warehouse purposes.

There are nine docks, with an aggregate length of 15,000 feet, owned and operated by private parties. While sixty vessels can work at one time at the docks, the dockage of the inner harbor is barely sufficient for the present business. In the outer harbor there are no docks as yet, although they can be constructed in from 30 to 40 feet of water. As conditions now exist, the larger vessels must anchor in the outer harbor and discharge by lighter a portion of their cargoes before they can enter the inner harbor. This constitutes a great drawback to the commercial possibilities and needs of San Pedro as a port. The Federal Government has expended \$3,000,000 on the breakwater, and in addition over \$1,000,000 for dredging in the inner harbor. The business men of San Pedro feel that the most needed improvement at the present time is the construction of docks in the outer harbor at an estimated cost of \$2,500,000.

The 1,217 steamers and 385 sail vessels entering this port during the year 1907 brought in trade from all the coast ports and also a considerable amount from foreign ports. San Pedro is an important port for the shipment of oil, 491,323 barrels having been sent out during 1907 to coast points and foreign ports. Being a distributing point for Los Angeles and a number of lesser cities, the receipts of lumber have been large, there being recorded 466,405,000 feet of lumber and 178,844,000 shingles, with great quantities of other building material of wood for the year 1907. The foreign receipts and shipments aggregate a considerable amount and are constantly growing factors in the shipping business of San Pedro.

Your committee held two sessions to consider the needs of San Pedro harbor. That city was visited by the committee early in 1908, when a meeting was held and the needs of the harbor discussed. At that time public sentiment had not crystallized, and there was a great difference of opinion as to whether there should be a State Harbor Commission and improvements made at the expense of the State, or the city retain control. A second meeting was held at the Chamber of Commerce in the city of Los Angeles on Monday, the 16th day of November of this year, at which the city of San Pedro was represented by Senator Savage and members of the Chamber of Commerce. Wilmington was represented by its city attorney, and Los Angeles by the Los Angeles Harbor Commission and members of the Los Angeles Chamber of Commerce.

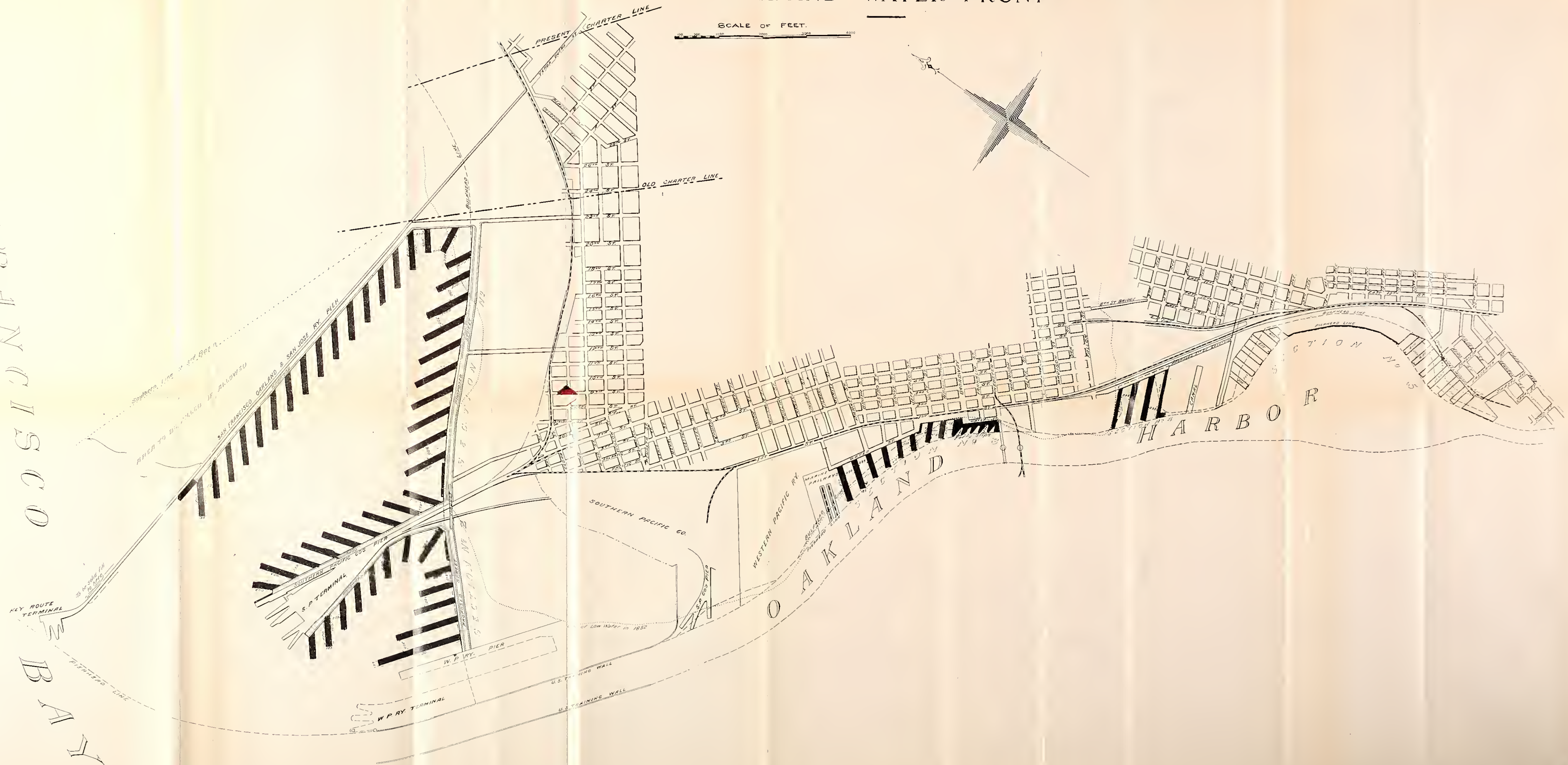
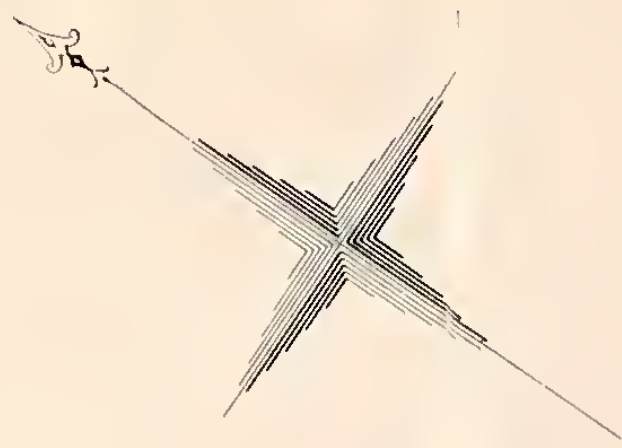
Senator Savage contended for a State Harbor Commission, and the control of San Pedro Bay by such commission. The members of the Los Angeles Harbor Commission, as well as the Chamber of Commerce, representatives from Wilmington and one or two representatives from San Pedro opposed State control, and contended that the State should not interfere with conditions at San Pedro. Some time since the City Council of Los Angeles by ordinance created a harbor commission of three members. This commission, in conjunction with the Chamber of Commerce, has been working to bring about a consolidated city government under the borough system, which shall include San Pedro, Wilmington, and other beach cities. It is their purpose, then, to have the city vote bonds to the extent of several million dollars, and build municipal docks and wharves at San Pedro.

While the record title to a greater portion of the water front at San Pedro is vested in private corporations, suit was filed in the month of October of this year for the purpose of testing the validity of these titles. All the private ownerships are based upon titles obtained between March 5, 1880, and January 16, 1891, under the general law of 1850 as amended in 1870, for the sale of swamp and overflow, salt marsh and tide lands. The State legislature has never passed any special act for the disposing of any part of the inner portion of San Pedro Bay, but under the interpretation of the swamp and overflow law State patents were issued to about seven eighths of the tide lands of the bay. It is now claimed that under the act of Congress admitting California to the Union, providing that all navigable waters shall be forever free, and the constitutional provision that all tide lands within two miles of any incorporated city or town of this State and fronting on the waters of any harbor or bay used for the purpose of navigation shall be withheld from grant or sale to private persons, partnerships or corporations, these State patents are illegal. As much of these tide lands has been occupied by private individuals claiming ownership for a great many

SAN FRANCISCO BAY

OAKLAND WATER-FRONT

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years, it is contended that the statute of limitation would bar the State from recovering the same, even though the State patents might have been illegally issued. In the case of *People vs. Kirber*, decided by our Supreme Court within the year, it is decided that tide lands are held in trust by the State for the people, and that in such cases the statute of limitation does not run against the State. The contest over these tide lands will be bitter, and contested by both sides with determination. It may be several years before they end. Your committee, therefore, is of the opinion that in view of the unsettled conditions of the tide lands at San Pedro, and the wish of a large number of people in Los Angeles and adjacent cities that the improvement of that harbor should be left to the municipality, it would be unwise to recommend the appointment of a State Harbor Commission, or the submission to the people of a bond issue for the improvement of this port.

OAKLAND.

Oakland has eighteen piers and docks, none of which are owned by the State, and which are under the jurisdiction of the city, which has expended much money in the way of improvements. In order to remedy the disadvantages of crowded docks and shallow water the city has in contemplation the issue of improvement bonds to carry on the work that is estimated will cost at least \$25,000,000 when completed.

The business done at Oakland is given for three years, being from January 1, 1905, to December 31, 1907. During this period 4,513 vessels entered the port, having a total of 2,019,918 tonnage. The greatest obstacle to an increase of business is shallow water, which must be deepened, no matter what the cost may be. This is essential in order to maintain the commerce in deeper bottoms. Oakland has about four miles of berth space, which takes in all the frontage on piers and wharves. New docks are needed, those now in use being inadequate even under present conditions. The dockage charges are regulated by city ordinances, and are practically the same as those that have been fixed by the State at San Francisco. As five railroads, including the belt line, are doing business on the Oakland wharves, demands for more room will constantly be made, and will necessitate the expenditure of a greater amount of money than is contemplated in the \$5,000,000 bond issue now under consideration. All new work should be of that permanent character that will last for all time.

MONTEREY BAY.

Monterey Bay is situated south of San Francisco Bay, and was one of the earliest shipping points in the State of California. The great necessity for that port is a breakwater, and earnest effort has been made to secure the building of the same by the Federal Government. It is claimed that if the breakwater were constructed in Monterey harbor fourteen million acres of farming land held by residents along Monterey Bay contiguous to that port would be enhanced in value, and that much land now vacant would be made available for farming and grazing. Speaking of Monterey Bay Captain Davis, of the United States lighthouse service, wrote:

For twenty-five years I have been running in and out of the port of Monterey. There is no harbor on the coast where finer anchorage can be found. Monterey is the best harbor between San Francisco and San Diego. It is thoroughly protected from southwest winds, which can not be said of any other harbor on the coast.

The great obstacles to shipping in Monterey Bay are the ground-swells and undertow. The ground-swells sometimes sweep into the bay causing surging to a degree dangerous to the larger vessels, while smaller craft are seldom disturbed. The several attempts made by the people of Monterey to induce Congress to appropriate funds for the building of a breakwater have been ineffectual, as the engineering board has always reported adversely, giving as reasons that the shipping is not sufficient to justify the expenditure. Monterey has, however, become an important California port, as the tonnage which passed out of the harbor in the last year amounted to over 500,000 tons. It is true that this was largely shipments of oil, but oil is now an important factor in our commerce. The present tonnage represents an increase of over 200 per cent in the two years last past.

It is estimated that the breakwater necessary to divert the current and cut off the undertow should be built out into the bay in an easterly direction about 2,000 feet, and that it would cost approximately \$1,000,000. This, it is claimed, will enhance the value of several million acres of land and assure better freight rates to a large population inhabiting the territory contiguous to Monterey Bay.

The entire water front in Monterey is owned by the municipality, and the city is determined that it shall always be free from monopoly holdings. It is to be hoped that the Federal Government can be induced at an early date to provide the necessary funds for the building of the Monterey breakwater.

TABLE SHOWING PHYSICAL CONDITIONS AT THE VARIOUS HARBORS OF CALIFORNIA, THE IMPROVEMENTS NEEDED, AND A SUMMARY OF THE BUSINESS DONE.

HARBOR.	Depth in Harbor.	Depth at Pier or Head Line. (Mean low depth.)	Piers Owned by State.	Piers Owned by Individuals.	Average length of Wharves.	Cost of Piers or Wharves.	Improvements Needed.	Annual Cost Maintaining Wharves.	Capacity Docks for Vessels.	Tide Lands Owned by State or Individuals.	Vessels Entering Port 1907.	Foreign or Coast.	What Should State Do?	Improvements, How to be Made?	Tonnage Received.	Tonnage Shipped.
San Francisco	35 fathoms.	23 to 33 feet.	31, and 6,629 feet of bulkhead.	9	18,600 feet and 6,628 feet seawall.	50 cts. to \$2.00 per square foot.	Seawall extended.	\$170,000	180 to 200	By State and individuals.	7,748	From all parts of the world.	Authorize issuance of bonds for improvements to anticipate needs of commerce by completing seawall and to build wharves.	By issue of 75-year bonds.	3,506,395 (Average for 5 years.)	4,358,648
San Diego	30 to 50 feet.	25 to 30 feet.	None.	9	13,920 feet.	\$611,000	State wharf and seawall or bulkhead.	\$11,700	24	State.	503	Coast and foreign.	Build seawall or bulkhead, and wharves.	By issue of 75-year bonds.	73,057 and 61,688,700 feet lumber. This does not include coal and cement.	10,956
Eureka	15 to 40 feet.	15 to 26 feet.	Not given.	Not given.	Not given.	Not given.	Dredging necks of sand between basins of deep water.	Not given.	Not given.	Individuals.	1,014	Coast and foreign.	Dredge in shallow places in harbor.	Direct appropriation.	75,000, besides oil and other products.	255,082,621 feet lumber; 14,589 tons other products.
San Pedro	22 to 24 feet.	24 feet.	None.	9	15,020 feet.	\$40 per running foot.	Docking facilities.	\$50,000	60	Titles in dispute.	1,602	Coast and foreign. Principally coast.	State aid not required.	By municipality.	Imports and exports. Merchandise, 29,912 tons; 466,405,000 feet lumber; 519,655 barrels oil; 1,038,325 feet oak logs.	
San Luis Obispo	30 feet.	26 feet.	One, county.	1	6,000 feet.	\$80,000	Breakwater.	\$5,000	8	Individuals.	Not given.	Coast and foreign.	State aid not required.		5,000	3,000,000 barrels oil; 3,500 tons cereals.
Santa Barbara	7 to 10 fathoms.	4 to 6 fathoms.	None.	1	2,300 feet.	\$125,000	Repairs only.	\$7,500	6	Individuals.	375	Coast.	State aid not required.		9,000	4,000
Newport	8 to 12 feet.	8 to 12 feet.	None.	18 (excepting one these are all pleasure piers)	50 to 100 feet each.	Not given.	Jetties and dredging.	\$3,000	2 (at outer wharf.)	State and individuals.	Not given.	Coast.	Jetties by Federal Government and dredging by the State.	By Federal Government.	Not given.	Not given.
Oakland	6 to 25 feet, average 20 feet.	Great variation, 0 to 25 feet.	None.	15	4 miles berth space.	\$50,000 and \$1,000,000 for dredging by city. Other owners \$5,000,000 for dredging.	City bonds to be issued for improvements.	Not known.	50 and upward	State to little beyond old city limits.	1,518 (three years.)	Coast and foreign.	State aid not required.	By municipality.	2,019,918 (three years.)	Not given.

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PORT SAN LUIS.

Port San Luis has achieved commercial importance largely because of the immense shipments of oil, there having been 3,000,000 barrels of this product exported during the year 1907. There is a depth of 34 feet at the entrance, and an anchorage area of ten square miles with an average depth of 30 feet. The county, at an expense of \$90,000, raised by bond issue, has constructed two wharves and owns one of the two docks at Port San Luis, the other being the property of private parties. The tide lands are all owned by individuals. The Federal Government has taken the preliminary steps toward completing a breakwater which has been under construction several years. The facilities for shipping are adequate for all present demands, and possibly for years to come.

SANTA BARBARA.

Santa Barbara was visited, but that city had nothing to ask, being in a very large measure a coast shipping point and pleasure resort. Although there have been moderate amounts of shipments in and out, this being a regular port of call for the Pacific coast steamers plying between San Francisco and San Diego, the one pier into the roadstead is sufficient for all the needs of the city.

NEWPORT BEACH.

Newport Bay, once a shipping point, is at the present time wholly a pleasure resort. The people living at that point justly believe the Federal Government should follow up the preliminary expenses of a survey made several years ago, and build twin jetties which would give them a safe and deeper channel into the bay, and a reasonable chance to gain back the lost trade. At the present time the bay is more an inland sea than a bay because of the little depth at the bar which renders navigation almost impossible. It is there believed that the State can influence the Federal Government to afford the necessary relief, which can come only in the way mentioned—the construction of twin jetties and a reasonable amount of dredging.

PETALUMA AND SAN RAFAEL.

These two ports are on the tide waters of San Francisco Bay, and enjoy a rapidly growing commerce. Several thousand dollars have been expended by the town of San Rafael in dredging a channel from the bay to the city giving a depth of four feet at low tide. It is estimated

that \$5,000 appropriated by the State would increase the capacity of the channel so as to give competing water rates with the railroad.

Petaluma is the port for a great section of country bordering on the north shore of San Francisco Bay. Several vessels arrive and depart daily, carrying great quantities of grain, dairy products, and general merchandise. An appropriation is needed to straighten the channel in the river above the head of navigation and to dredge the bar where the river empties into San Francisco Bay. It is estimated that \$15,000 will suffice for this work.

NECESSITY OF HARBOR IMPROVEMENTS.

California is at present, as it were, merely a transfer station where freight is received and forwarded to Asia, Australia, Pacific island ports and the more eastern of the United States. It is true the oil fields have been instrumental in the development of a commerce with the Far East, and the fruit and other productions of the State have made their own market in all the states of the Union, and our lumber is in demand in many foreign countries, but we have not kept pace with other portions of the world in a manufacturing way. We have increased shipments into the State at the expense of our export trade, making but comparatively little use of the raw material that should greatly increase our commerce.

On the California coast are extensive deposits of iron ore, and in time great smelters will be established and our manufacturing interests will be multiplied many fold. In addition to this raw material California has a power that is but partially utilized, which should be sufficient to operate all manufacturing, lighting, and power plants that may be required within this State during the next twenty-five years. All this can the water in the mountains do if properly harnessed, and not a drop be wasted that might be required for irrigation and domestic purposes. The impounding dams of San Diego County, the great Owens River project now in progress at the expense of the people of Los Angeles, the rivers and streams in the central and northern portions of the State, represent as much energy as all the coal mined in Pennsylvania, Ohio, Illinois, Indiana, Kansas, and Arkansas, if the theories of those who have thought much on this matter be true, and its cost is a mere trifle in comparison.

Careful estimates made by the Federal engineers, made after years of study and the measurements of all the streams in the State, demonstrate that the possibilities of water power development in California far exceed that of any other state in the Union. This is due to the fact that the streams of California, having their source in the Sierras, have greater fall in their course to the sea than the streams in other sections

of the United States. At the present time there is approximately 200,000 horsepower of this great possibility fully developed.

The topography of California is such as to divide the State into six drainage districts, as follows: San Francisco Bay drainage, 64,000 square miles; North Pacific Ocean drainage, 20,040 square miles; Central Pacific Ocean drainage, 11,250 square miles; South Pacific Ocean drainage, 11,490 square miles; great interior basin drainage, 32,630 square miles; Colorado River drainage, 18,950 square miles. The possible horsepower, conservatively estimated after careful measurement of all the streams, is as follows:

Stream Drainage.	Minimum Horsepower in Year.	Minimum Horsepower in Six High Water Months.	Additional Horsepower from Storage.
San Francisco Bay drainage.....	2,655,600	5,433,200	1,501,400
North Pacific drainage	566,730	1,033,320
Central Pacific drainage	880	15,740	14,390
South Pacific drainage	30,810	60,030	71,350
Interior drainage	240,680	347,790	206,870
Totals	3,492,700	7,901,080	1,794,010

Develop the iron deposits, harness the water with dams, flumes and turbines, and thousands of dynamos will create energy enough to cause the employment of tens of thousands of skilled workmen in all the seaport cities and their neighboring towns, and at our docks will be found vessels bearing the flags of all the maritime nations seeking as freight the manufactured products of California. All this is sure to come, and that, too, not more than a generation hence. Much money has been expended in the harbors of the State, not for future business, but for present demands only. The reports made to this committee all declare that "there is dockage enough for the present business," while at the same time these reports urge the necessity of improvements to meet the demands in sight for needed additional facilities for shipping.

When the time comes, and it will come right soon, that the people of this State will do as has been done in Italy and other nations, utilize all the existing water power and thus secure constant and cheap fuel, the "green coal" of the mountains, every landowner in California, no matter how remote from the seaboard, will derive especial and lasting benefits, accruing from the manufactories that will be built on the shores of every bay that can be improved sufficiently to shelter the vessels, large and small, that are sure to seek this coast from all parts of the world. The Tehuantepec Railway, shortening the route for freight between Atlantic and European ports and the great Pacific field of trade, give promise of what the business on this coast must become when the Panama Canal shall have been completed and vessels, steam and sail, of all sizes can come from the Atlantic Ocean into the ports of

San Diego, San Pedro, San Francisco, and Humboldt, as well as the several lesser ports that will claim and secure their share of business because they will all produce the manufactured products that the world must have at any cost.

This may not seem pertinent to the report of your joint committee on harbors, but the connection between a proper improvement of the harbors of the State and the increased commerce, which must come with increased manufacturing activity, is so close that we deem it advisable to call in a brief way attention to the importance of a partially unused force that can be utilized to the advantage of all. The State is not developing the water power, nor will it be called upon to do so. The State, however, will derive benefits from the liberal expenditures in this direction now being made by municipalities and corporations, which will be increased ten fold when there is a general awakening to the importance of this subject. The proper improvements made in harbor facilities will have much to do with hastening the day when California factories will be operated by the water from the mountains.

CALIFORNIA'S PRINCIPAL HARBOR—ITS PRESENT AND ITS FUTURE.

The improvements in the bay of San Francisco prove the wisdom shown by the State in the expenditure of apparently large sums of money for the construction of seawalls and wharves. The State, owning the wharves, can and does fix the charges which, while less than at some ports, cover the cost of administration, repairs, and some new work, and at the same time provide a sinking fund for the redemption of the bonds issued, together with the annual interest paid thereon. During the past year, which was a period of comparative depression, the present wharf facilities in San Francisco have apparently been ample. But periods of depression do not stay the life of wharves that were erected in the past without having in view longevity, and which must soon be replaced by modernized structures. There must also be additional docks and wharves, not only to provide for the increased tonnage that is inevitable, but also to accommodate the larger vessels that are year by year growing in size. To provide room for these new wharves there must be extension of the seawall and the reclamation of land for commercial purposes.

That it is wisdom for the State to expend money on such improvements admits of no question. Or rather, it should be stated in another way, it is wisdom for the State to loan its credit for such improvements as will not only care for present demands, but also meet all the requirements of the commercial world in the years to come.

MAP
OF THE
WATER FRONT
OF THE
CITY OF SAN FRANCISCO
SHOWING
A SYSTEM OF PIERS
DESIGNED FOR THE
FEDERATED HARBOR IMPROVEMENT ASSOCIATION

by
LUTHER WAGONER
Engineer
W.H. HEUER
Consulting Engineer

SCALE
MARCH 1900

The location of the map showing of water front, built head line, is copied from one made by T.D. Arnold, Chief Engineer of Board of San Harbor Commissioners.

Pink tint represents property owned by State of California.
Olive Green tint represents property recommended to be acquired by State of California.



There are two harbors to which the State can consistently loan its credit, having power to adjust the schedule of charges and to provide for the repayment of all moneys obtained on the credit of the State. These are San Francisco and San Diego. In the first named the State owns all the wharves except two, and the additional ones now necessary can be built only as property of the State, subject to its regulations. In San Diego the State does not own any of the wharves, but with the erection of a seawall there will not only be the wharves to the pier line, but there will be the reclamation of tide lands worth nearly the cost of construction; and immediately following the building of the seawall and wharves at San Diego the State charges will naturally be the basis for the regulation of all dockage charges, and eventually cause all wharves now owned by private parties and corporations to practically come under State supervision.

Great as has been the expenditure at San Francisco, that harbor has been self-sustaining. With the improvements so badly needed, costing probably \$10,000,000, there will come increased revenues with the increased commerce, while there will be but little increase in administrative expenses. At the present time wharfage facilities are taxed to their utmost to care for the 9,678,792 tons of freight annually handled. The increase since the earlier days has been constant, and it requires no imagination to prove that within a few years this port will be handling 13,000,000 tons of freight annually. To meet this increased business, and to accommodate the additional shipping there is the necessity of providing greater facilities than now exist, and which can not be provided for in time from the annual revenues of the port. The report of Luther Wagoner and Wm. Heuer, U. S. A., the engineers of the Federated Harbor Improvement Association, says:

The commerce of the port is growing, not with regularity, but with constant acceleration, and in twenty years the commerce should amount to 13,000,000 tons (annually). What increase of this acceleration will follow the completion of the Panama Canal is suggested, but not figured in the calculation. It is predicted that the proper extension of the docks and wharves would enable the port to do a commerce of 30,000,000 tons annually. This would mean the covering the ten miles of water front with docks.

There are five plans for extension presented, as follows:

A. Development of the water front continued along the bay in a southerly direction beyond what is now the boundary line between San Francisco and San Mateo counties.

B. In case a Greater San Francisco were formed, embracing other cities on San Francisco Bay, construction of other wharves on the Oakland side of the bay.

C. Cut down Yerba Buena Island and build up an adjacent shoal.

D. Acquire land now submerged and in private ownership between India Basin and what is known as Islais Creek channel, which would permit of an inner basin being formed, in which nine additional wharves may be constructed, to furnish more than four miles additional berth room.

E. Slips and solid piers may be constructed between Fort Mason and Presidio. This will furnish 19,200 lineal feet of berth room.

Obtain permission of the Secretary of War to reestablish the bulkhead or seawall line 150 feet bayward of its present location, and for a corresponding alteration of the pierhead line, especially at Mission Rock, to furnish 5.3 miles of additional wharf room, or 10.8 miles additional berth room between Channel street and Hunter's Point, or, including that in Paragraph D, more than 15 miles additional berth room.

The engineers' report referred to shows that with one fourth of the cost of the Liverpool harbor San Francisco's harbor could be extended to accommodate twice the business of Liverpool. It is further shown that under the recent amendment to the constitution, authorizing 75-year bonds, the cost of extension and improvement of the harbor would not in the least be burdensome, as the percentage of earnings would provide for maintenance, repair, and management, *and leave ample for interest and sinking fund for redemption of the bonds.* The engineers make a detailed statement showing the cost of the harbor complete. The estimated cost is for the erection of docks, wharves, and appliances sufficient to accommodate a traffic of 30,000,000 tons annually. The total cost, not considering the price of real estate, would amount to \$43,284,195. It is estimated that the value of the present water front improvements now amounts to \$10,000,000, and this added to the proposed development would make the entire cost \$53,284,195. Continuing, the engineers say:

"It is proposed to pay for these improvements with long term (75-year) bonds, a synopsis of the commerce of the port showing that the sum could easily be paid from the port itself. The Federated Harbor Improvement Association suggests that \$10,000,000 long term bonds be issued for the work that is to be completed by 1920. These bonds would not all be issued before 1920. As before shown, the revenues of the port are ample to pay all harbor expenses, pay the interest, and eventually redeem the bonds."

The only too frequent congestion of freight notwithstanding the efforts of the Harbor Commissioners and their assistants, aided by the business men of San Francisco fully warrant the conclusions as to present conditions and requirements for the future, as set forth in the report of the Federated Harbor Improvement Association:

The present wharves are inadequate for an increased commerce.

New wharves and additional seawall should be constructed in advance of the immediate requirements of commerce.

Harbor lines should be modified as soon as practicable. Applications to change these lines and to build several solid piers extending outside the pierhead lines should be made to the Secretary of War.

Funds from existing dock revenues are not sufficient to make the improvements as rapidly as required. The present port charges should not be increased. The improvements to be made in the next ten years will cost between \$10,000,000 and \$11,000,000. Funds for this purpose may be obtained by an issue of \$10,000,000 four per cent 75-year State bonds, sinking fund for their redemption to begin twenty-five years after their first issue.

Warehouses at the head of wharves are essential. A change in the bulkhead line, in accordance with recommendations, would afford suitable warehouse sites.

Notably the most important seaport on the western coast of the United States, San Francisco, has for its territory, in a commercial way,

all the land to the Atlantic Ocean. Hence it is that the great trans-continental lines are doing their utmost to reach that point, as well as the more southerly ports, for all the year the way is open to traffic on land as well as on the ocean. Taking into consideration the increase in population in the Western States during the past twenty years, and the work now being done by the Federal Government in the reclamation of desert lands, there will unquestionably be within the next twenty years millions of people where there are now hundreds of thousands. This means added production and almost numberless new manufacturing establishments throughout the West and the State of California, a largely increased commerce that will tax to the utmost the capacity of all the ports in California, and especially that of San Francisco. There will come a time when American ships will be made possible, and under the American flag will be carried the breadstuffs and manufactured articles demanded by the civilized and enlightened nations of the world. California will be the first to reap the reward of the extended commerce, for she has the things that the people of the world need and must have. To prepare for that time the ports must be made ready.

NECESSITY FOR STATE ACTION.

We found at San Diego a condition as to the water front largely in favor of the State. The building of a seawall will not only make it possible for the State to construct and own a number of wharves, but there will follow the reclamation of lands that will at once be worth almost the cost of constructing the seawall, and will be a source of revenue for all time to come. The Federal Government is making improvements in San Diego Bay that will not only necessitate the expenditure of much money in the way of deepening the channel in places, but will require a preparation for harboring the battle fleet of the Pacific when occasion requires. Not as great in area as San Francisco Bay, San Diego Bay is large enough and deep enough for the entire Pacific fleet, and not in any way interfere with commerce. Another thing that will eventually cause the business of this port to largely increase is the shorter distance to the Hawaiian Islands, Japan, China, and Australia. It will be the first port of call for vessels coming through the Panama Canal, and having two transcontinental railroad lines never disturbed by the rigors of winter or the flooding of melted snows, commerce from the middle western, eastern, and some of the southern states will naturally seek the Pacific at this point.

If present conditions alone were to be considered, San Francisco and San Diego bays would still be without wharves of any kind, for in the past "present" there was no need for innovations of that kind. In

the light of the future San Diego, a most important port, having all the requirements of a safe harbor, with practically no limit to its capacity, and the State being in possession of its rights as to tide lands, there must be substantial improvements in the way of a seawall and wharves. California can not afford to neglect this important point, nor can the business done be passed over to private individuals and corporations. No reflection is cast upon private persons, for the business of San Diego harbor has been well and honestly done, to the encouragement of commerce. The Harbor Commissioners have at all times been earnest and faithful in their duties, but honesty and faithfulness do not build seawalls and wharves.

The Board of State Harbor Commissioners for the bay of San Diego recommends the building of a seawall and wharves by the State as the best way to secure low wharf charges, as well as making provision for future increased business from the ocean trade. The method of building and paying for the same as applied to San Francisco would apply to San Diego as well. The State would be merely loaning its credit, the bonds and interest to be paid from the business of the harbor.

CALIFORNIA HARBORS AND LATIN REPUBLICS.

While it is not within the province of this committee to suggest methods and means of extending trade, or the building up of a great commerce for State ports, yet the connection between improved harbors and an increased commerce is so close that your committee deems it proper to make reference to the possibilities of closer trade relations with the twelve Latin republics having frontage on the Pacific, and which are spending immense sums of money in the improvement of their ports. Mr. John Barrett, of Oregon, Director of the Bureau of American Republics, who has not only made a most exhaustive study of the resources of the republics south of the United States, but who has as well made personal examination of their trade relations, gives some valuable information. He calls attention to the wonderful development in all the Latin republics, in which business enterprises have been inaugurated that involve the expenditure of many millions of dollars. He asserts that if one twentieth of the expenditures that have been made for trade relations in Japan and China had been devoted to establishing closer relations with the Latin republics the results would have been incomparable. In illustration Mr. Barrett shows that the Argentine Republic, with 6,000,000 population, had a greater foreign trade than Japan with its 50,000,000 and China with its 400,000,000 population. And yet the United States has made but little effort to secure a fair proportion of this immense trade. That which we have neglected has been eagerly sought by England and Germany

An expenditure of \$15,000,000 has been ordered by Chili for the improvement of the harbor at Valparaiso, and other ports are receiving practical attention. Heretofore, the development of Mexico has been largely limited to the more eastern and central parts of that republic, but of late years the officials of Mexico have been giving attention to the western or Pacific portion, having brought to completion improvements and enterprises that have already been of vast benefit to California ports and to the State at large as well, besides inaugurating others that California should be prepared to utilize.

One of the first steps toward an enlargement of trade and an increase of manufacturing and commercial interests is the proper improvement of the harbors of the State, even before the shipping fleet of the United States can be increased to proper proportions, as it will be. The attention of the commercial bodies of the State should be called to an almost neglected field, which promises far greater results than does the Orient. While the latter is being cultivated there is no excuse for apathy in the extension of trade relations with the Latin republics, which are so rapidly developing their natural resources. The proper improvement of the State's harbors will have much to do with the establishment of closer trade relations with republics which should be brought into a great commercial union, the United States being the leading member, and California the most important factor.

Your committee recommends to the legislature the advisability of State aid in securing for our commercial interests full information as to the natural resources of all the Latin republics, especially those bordering on the Pacific, as well as their needs for the manufactured products and commercial articles originating in this State, which should find a market in those southern countries now almost monopolized by Germany and Great Britain. It is true such information would be of general use, but California is in position to reap the greater reward owing to its almost unlimited supply of raw materials, its unlimited power for manufacturing purposes, and its harbors that, with proper improvement, can not be excelled.

ADVISORY BOARD OF HARBOR COMMISSIONERS.

Your committee recommends an amendment to the Political Code providing for an Advisory Board of Harbor Commissioners, to be comprised of the presidents of the several boards of harbor commissioners in this State. The desirability of such a board should be apparent. It might be well to add to such advisory board the Governor and the Controller, in view of the proposed increase in the expenditure of State moneys and in order to protect the people's interests. This is a matter to which serious consideration should be given, your committee having, during its researches, realized the advisability and the necessity for such a board.

CONCLUSIONS.

At the present time the accommodation for ocean freighters is in its infancy as compared with Atlantic ports, although the total number of vessels discharging cargoes during 1907 in California ports was 15,775. It has been said that facilities are sufficient for the present tonnage entering our ports, but increase of population within the State, a like increase in the states farther east, and the extension of trade territory will soon place present conveniences among the things of the past. To permit port facilities to remain at a standstill will be to acknowledge that all that has been said regarding the great anticipated growth of commerce is false, and we do not believe with our money that which we say with our mouths.

The State owns the tide lands at San Diego, and a portion of the tide lands at San Francisco, where the building of seawalls gives the State the ownership of wharf and warehouse privileges on its own reclaimed lands, a valuable acquisition that is worth millions of dollars in present values. Naturally concessions and rentals will add more millions of dollars, and eventually return to the State all that may have been expended, with interest, and still keep port charges at a minimum. Increased facilities will work to the advantage of consumer and shipper alike, while the benefits to the entire State will be inestimable.

For commercial purposes there are in State ports thirty-one wharves owned by the State, two owned by county, and thirty-eight owned by corporations and individuals. Added to these may be counted some thirty piers and docks occasionally used for commercial purposes, but which are in the main designed for pleasure or merely for private interests. Of those privately owned two are in San Francisco, nine in San Diego, nine in San Pedro, one in Santa Barbara, fifteen in Oakland, one at Port San Luis, one at Monterey, and one at Newport. The aggregate length of all the piers, State and private, has been estimated at 81,900 feet, affording accommodation for about 350 vessels at one time, a small number for the growing business being developed at all the ports. The cost of these wharves or piers is impossible of determination, varying so greatly with conditions. In San Francisco the cost varies from 50 cents to \$2.90 a square foot, the character of piling and bottom being taken into consideration. At San Pedro the cost has been placed at \$40 a running foot. In San Diego Bay there has been found the same conditions that prevail in San Francisco Bay as a whole, although the cost of concrete piling may be a little less. There is a demand for improvements by the State, confined principally to the building of seawalls, the construction of piers, and dredging. The approximate of aggregate ultimate cost is not less than \$50,000,000.

The maintenance and repairs of all the ports aggregate for 1907 only \$247,200, showing economical management, and this when the commerce in these ports represented in value hundreds of millions of dollars. This cost of maintenance, of course, is the aggregate of only those ports making report.

How shall these improvements, if decided upon, be made? Your committee has asked this question of many people, and the answer has invariably, with one exception, been, "By the issuance of long term bonds bearing a low rate of interest." The reason is obvious. As the benefits to be derived from these improvements will extend to future generations it is desirable that the expense of making the improvements should be partially borne by those who receive a portion of the benefits. This is generally understood by the people of the State of California, inasmuch as the legislature at its last session submitted to the electors of the State a constitutional amendment which provides for the issuance of 75-year bonds, and their redemption by a sinking fund which shall not begin for a period of eighteen years after their issuance. This amendment was carried by a large vote, and it was generally understood by the electors that these bonds were intended for the improvement of the harbor of the State. The legislature will, therefore, only be carrying out the will of the people in submitting to the electors of this State the bond issues recommended for the ports of San Francisco and San Diego.

RECOMMENDATIONS.

From the investigations made, as set forth in the foregoing report, the Joint Legislative Committee recommend as follows:

San Francisco.—That there be submitted to the electors of the State of California, under constitutional amendment adopted at the 1908 election authorizing 75-year bonds, a bond issue of three million dollars for the purpose of building a seawall and appurtenances for the port of San Francisco; a bond issue of six million five hundred thousand dollars for the purpose of building wharves and docks at the port of San Francisco; a bond issue of fifty thousand dollars for the purpose of extending, repairing, and improving the belt line railroad at the port of San Francisco; a bond issue of one million dollars for the acquisition of land at or near Islais Creek Basin; and a bond issue of four hundred thousand dollars for dredging in the port of San Francisco.

We further recommend that provision be made for the sale of these bonds, when authorized, by the State Treasurer upon direction of the Governor of the State of California, after a resolution requesting such sale shall have been made and adopted by the State Harbor Commis-

sioners. Such bonds to be sold only as the funds are needed for the specified improvements.

San Diego.—We recommend for the port of San Diego a bond issue of one million dollars for the purpose of building a seawall and its appurtenances, and a bond issue of five hundred thousand dollars for the purpose of building wharves and docks at said port, under the same terms and conditions as contained in the recommendation for the bond issue for the port of San Francisco.

Humboldt Bay.—We recommend that a direct appropriation of twenty-five thousand dollars be made for the purpose of removing by dredging the hogbacks or sand deposits which are at the present time a destruction to shipping in Humboldt Bay.

Oakland.—As a majority of the people of Oakland prefer municipal control of harbor improvements at that point and advocate an issue of municipal bonds to pay for the same, we recommend that the State take no action so far as the improvement of the water front at Oakland is concerned.

San Pedro.—Inasmuch as the title to the tide lands at San Pedro is in litigation, and as the people of Los Angeles, and a portion of the inhabitants of San Pedro and Wilmington desire municipal control of that port, the committee recommends that the building of walls and docks at San Pedro be left entirely to the municipality.

Petaluma and San Rafael.—We recommend that a direct appropriation of fifteen thousand dollars be made for the purpose of dredging the channel and also dredging across the bar at Petaluma, and that the sum of five thousand dollars be appropriated for dredging the channel to the city at San Rafael.

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